

Table F-4. Historic Effluent Limitations and Monitoring Data for Toxic Constituents

Parameter	Units	Effluent Limitation Order R4-2013-0094			Monitoring Data (From August 2013 –December 2017)		
		Average Monthly	Maximum Daily	Instantaneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Arsenic (As)	µg/L	--	--	--	1.6	--	1.6
Cadmium (Cd)	µg/L	--	--	--	<0.5	--	<0.5
Chromium VI(Cr)	µg/L	--	--	--	7.1	--	7.1
Copper (Cu)	µg/L	--	--	--	30	--	30
Lead (Pb)	µg/L	--	--	--	19	--	19
Mercury (Hg)	µg/L	--	--	--	0.38	--	0.38
Nickel (Ni)	µg/L	--	--	--	6.6	--	6.6
Selenium (Se)	µg/L	--	--	--	7.1	--	7.1
Silver (Ag)	µg/L	--	--	--	2.9	--	2.9
Zinc (Zn)	µg/L	--	--	--	35	--	35
Cyanide	µg/L	--	--	--	3.2	--	3.2
Residual Chlorine	mg/L	--	--	--	0.08	--	0.08
Ammonia-N	mg/L	--	--	--	49.13	--	49.13
Chronic Toxicity	TUc	--	99	--	25	--	25
Non-Chlorinated Phenolic Compounds	µg/L	--	--	--	25	--	25
Chlorinated Phenolic Compounds	µg/L	--	--	--	<0.58	--	<0.58
Endosulfan	µg/L	--	--	--	<1.99	--	<1.99
Endrin	µg/L	--	--	--	<0.08	--	<0.08
HCH	µg/L	--	--	--	<0.014	--	<0.014
Radioactivity		--	--	--	<0.05	--	<0.05
Gross alpha	pCi/L	--	15	--	10.2	--	10.2
Gross beta	pCi/L	--	50	--	94	--	94
Combined Radium-226 & Radium-228	pCi/L	--	5.0	--	<0.56	--	<0.56
Tritium	pCi/L	--	20,000	--	--	--	--
Strontium-90	pCi/L	--	8.0	--	--	--	--
Uranium	pCi/L	--	20	--	--	--	--
Acrolein	µg/L	--	--	--	<2.20	--	<2.20
Antimony	µg/L	--	--	--	5.4	--	5.4

Parameter	Units	Effluent Limitation Order R4-2013-0094			Monitoring Data (From August 2013 –December 2017)		
		Average Monthly	Maximum Daily	Instan- taneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Bis (2-Chloroethoxy) methane	µg/L	--	--	--	<0.25	--	<0.25
Bis (2-Chloroisopropyl) ether	µg/L	--	--	--	<0.38	--	<0.38
Chlorobenzene	µg/L	--	--	--	<0.21	--	<0.21
Chromium III (Cr)(calculated)	µg/L	--	--	--	5.0	--	5.0
Di-n-Butyl Phthalate	µg/L	--	--	--	<0.24	--	<0.24
Dichlorobenzene	µg/L	--	--	--	<1.65	--	<1.65
Diethyl phthalate	µg/L	--	--	--	<0.15	--	<0.15
Dimethyl phthalate	µg/L	--	--	--	<0.18	--	<0.18
4,6-dinitro-2-methylphenol	µg/L	--	--	--	<0.50	--	<0.50
2,4-dinitrophenol	µg/L	--	--	--	<1.60	--	<1.60
Ethylbenzene	µg/L	--	--	--	<0.17	--	<0.17
Fluoranthene	µg/L	--	--	--	<0.22	--	<0.22
Hexachlorocyclopentadiene	µg/L	--	--	--	<1.5	--	<1.5
Nitrobenzene	µg/L	--	--	--	<0.36	--	<0.36
Thallium	µg/L	--	--	--	<2.00	--	<2.00
Toluene	µg/L	--	--	--	<0.22	--	<0.22
Tributyltin	µg/L	--	--	--	<0.01	--	<0.01
1,1,1-trichloroethane	µg/L	--	--	--	<0.38	--	<0.38
Acrylonitrile	µg/L	--	--	--	<1.8	--	<1.8
Aldrin	µg/L	--	--	--	<0.0075	--	<0.0075
Benzene	µg/L	--	--	--	<0.23	--	<0.23
Benzidine	µg/L	0.0068	--	--	<4.00	--	<4.00
Beryllium (Be)	µg/L	--	--	--	0.6	--	0.6
Bis (2-Chloroethyl) ether	µg/L	--	--	--	<0.27	--	<0.27

Parameter	Units	Effluent Limitation Order R4-2013-0094			Monitoring Data (From August 2013 –December 2017)		
		Average Monthly	Maximum Daily	Instan- taneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Bis(2-ethylhexyl)- phthalate	µg/L	--	--	--	16	--	16
Carbon tetrachloride	µg/L	--	--	--	<0.33	--	<0.33
Chlordane	µg/L	--	--	--	<0.4	--	<0.4
Chlorodibromo- methane	µg/L	--	--	--	<0.38	--	<0.38
Chloroform	µg/L	--	--	--	5.9	--	5.9
DDT	µg/L	--	--	--	<0.19	--	<0.19
1,4- Dichlorobenzene	µg/L	--	--	--	<0.55	--	<0.55
3,3'- dichlorobenzidine	µg/L	--	--	--	<1.2	--	<1.2
1,2- dichloroethane	µg/L	--	--	--	<0.24	--	<0.24
1,1- dichloroethylene	µg/L	--	--	--	<0.39	--	<0.39
Dichlorobromome- thane	µg/L	--	--	--	<0.28	--	<0.28
Dichloromethane	µg/L	--	--	--	<0.25	--	<0.25
1,3- dichloropropene	µg/L	--	--	--	<0.26	--	<0.26
Dieldrin	µg/L	--	--	--	<0.01	--	<0.01
2,4- Dinitrotolulene	µg/L	--	--	--	<0.18	--	<0.18
1,2-Diphenyl- hydrazine	µg/L	--	--	--	<0.30	--	<0.30
Halomethanes	µg/L	--	--	--	<1.60	--	<1.60
Heptachlor	µg/L	--	--	--	<0.01	--	<0.01
Heptachlor epoxide	µg/L	0.002	--	--	<0.01	--	<0.01
Hexachloro- benzene	µg/L	--	--	--	<0.49	--	<0.49
Hexachloro- butadiene	µg/L	--	--	--	<0.47	--	<0.47
Hexachloroethane	µg/L	--	--	--	<0.52	--	<0.52
Isophorone	µg/L	--	--	--	<0.21	--	<0.21

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		Average Monthly	Maximum Daily	Instan- taneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
N-Nitrosodi- methylamine	µg/L	--	--	--	<0.14	--	<0.14
N-Nitrosodi-N- propylamine	µg/L	--	--	--	<0.26	--	<0.26
N-Nitrosodi- phenylamine	µg/L	--	--	--	<0.19	--	<0.19
Polycyclic Aromatic Hydrocarbons (PAH)	µg/L	--	--	--	<2.81	--	<2.81
Total Polychlorinated Biphenyls (PCBs)	µg/L	0.019	--	--	<3.5	--	<3.5
TCDD equivalents	µg/L	0.000000 39	--	--	<1E-8	--	<1E-8
1,1,2,2- tetrachloroethane	µg/L	--	--	--	<0.18	--	<0.18
Tetrachloro- ethylene	µg/L	--	--	--	<0.27	--	<0.27
Toxaphene	µg/L	--	--	--	<0.6	--	<0.6
Trichloroethylene	µg/L	--	--	--	<0.37	--	<0.37
1,1,2- trichloroethane	µg/L	--	--	--	<0.25	--	<0.25
2,4,6- Trichlorophenol	µg/L	--	--	--	0.74	--	0.74
Vinyl chloride	µg/L	--	--	--	<0.33	--	<0.33

D. Compliance Summary

Effluent violations for biochemical oxygen demand (BOD₅20°C) and radioactivity were reported between 2013 and 2017. Violations of the water quality objective are summarized in Table F-5 and a Notice of Violation was given to the Discharger for each. Facility upgrades to prevent future bypasses are described below under section F. Planned Changes.

1. Bypass

Four bypass events were reported to the Regional Water Board in accordance with the requirements of this Order. They are the subject of ongoing enforcement activity.

- May 26, 2017:** less than 10 gallons of primary effluent were spilled when the shaft seal of biocirculation pump #1 failed. Sand bags were used to contain the spill, but fluid entered the gutter on Perkins Road where it was removed before it entered any catch basin or body of water.

- b. **July 16, 2017:** 325,380 gallons of primary effluent was released through the chlorine contact chamber to mingle with fully treated effluent during transport to the ocean outfall diffuser and discharge into the Ocean. The release was attributed to failure of the external power supply, intermittent operation of the emergency standby power generator, and failure of the emergency bypass tank and chlorinator. Flow over the bypass weir fluctuated until power restoration and manual operation of the pump re-established normal operation.
- c. **December 4, 2017:** 193,035 gallons of primary effluent were bypassed to the ocean outfall through the chlorine contact chambers. The release was attributed to failure of the external power supply during the high wind event and Thomas Fire, which burned north of the facility, and intermittent operation of the emergency standby power generator. Manual operation of sewer lift stations prevented additional releases in the collection system. Ormond Beach was closed as a preventative measure, but sampling in the vicinity of the outfall did not identify bacteria exceedances.
- d. **December 7, 2017:** 22 gallons of final effluent foam left the Final Effluent Pump Station Exhaust fan and entered Perkins Road. Sand bags were used to limit the spill, and the fluids were removed before it entered any catch basin or body of water.

Table F-5. Violations

Violation	Date
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) Monthly Average limit is 30 mg/L and reported value was 34 mg/L at EFF-001B.	11/30/2016
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) 30-Day Average limit is 30 mg/L and reported value was 30.6 mg/L at EFF-001B.	10/31/2016
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) 30-Day Average limit is 30 mg/L and reported value was 35 mg/L at EFF-001B.	5/31/2015
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) 30-Day Average limit is 30 % and reported value was 35 % at EFF-001B.	3/31/2015
Biochemical Oxygen Demand (BOD) (5-day @ 20 Deg. C) 30-Day Average limit is 30 mg/L and reported value was 31 mg/L at EFF-001B.	2/28/2015
Radiation, Gross Beta Daily Maximum limit is 50 PCi/L and reported value was 94 PCi/L at EFF-001A.	8/4/2014

E. Receiving Water Description

The OWTP discharges into the Ocean at a one-mile outfall, which lies south of the towns of Ventura and Port Hueneme, north of Mugu lagoon, and offshore of Ormond Beach. The City has monitored the marine conditions since at least 1999 and has annually described the receiving water. The vicinity of the outfall consists of a silty-sandy plain that is generally uninterrupted between Hueneme and Mugu Submarine Canyons, located upcoast and downcoast, respectively, of the outfall. Fish tissue studies confirmed DDT and PCB are present in some species above method detection limits, especially White Croaker. DDT and PCB concentrations in fish tissue are lower than consumption thresholds and those measured in other parts of Santa Monica Bay. Sediment concentrations of DDT rose from 2005 through 2010, and then decreased to at or below method detection limits in 2012 to 2016. PAH

showed similar variability in sediment sampling. PCB concentrations are below detection in sediment across the study periods.

F. Planned Changes

1. **Wastewater effluent sampling location modification** – In 2015 the City of Oxnard began taking samples at EFF-001B in accordance with the NPDES Permit No. CA0054097, Order No. R4-2013-0094. Previously, effluent samples were taken at the Chlorine Contact Tank Location (EFF-001A). The new effluent sampling location (EFF-001B) consists of a mixing tank where proportionate sample flow from secondary effluent and Reverse Osmosis (RO) concentrate from the Advanced Water Purification Facility (AWPF) are blended. Violations of BOD and elevated bacteria counts have been traced to regrowth in the sample tubing between the last chlorination point in OWTS and the sampling point. Due to this problem, this Order allows a separate sampling point for Biochemical Oxygen Demand, bacteria and TSS, as requested by the Discharger on June 9, 2017, at EFF-001A.
2. **Operation of the Advanced Water Purification Facility (AWPF)** – In 2015, the City began delivering recycled water from its AWPF for recycled uses. Depending on the demand for recycled water, approximately 4 MGD to 16 MGD of secondary effluent is diverted through the AWPF, which is capable of producing up to 12.5 MGD of advanced treated recycled water with a maximum brine flow rate of 3.1 MGD. The future final production of the AWPF is 25 MGD expected to result incommensurate changes in brine production and concentration.
3. **Enhanced primary settling** – Before 2018, Oxnard used polymer to enhance primary settling of solids in the primary clarifiers. Presently, the City has stopped using polymer in the primary clarifiers, but has plans to install permanent polymer equipment as part of the primary clarifier rehabilitation project.
4. **Spill Prevention** - The City of Oxnard has experienced spills of primary effluent since 2013. The most recent occurred in December 2017. The following is a list of corrective measures underway to prevent future occurrences:
 - a. **Operation and Maintenance Activities**
 - i. One Primary Clarifier will be kept off line and used, if necessary, to hold flow in the event that the interstage pumping system fails.
 - ii. The B-2 breaker was re-installed and the co-generator has been made operational.
 - iii. Chlorine contact tank (CCT) emergency chlorinator solenoid was replaced.
 - iv. Bio-Circulation Pump #1 is being rebuilt. Once installed, the pump will be used during Interstage failures.
 - v. The power distribution control system installation is complete and the system is operational.
 - b. **Capital Improvement Activities**
 - i. The existing main electrical building and switchgears will be replaced through the City's 2-year capital improvements program.

- ii. The existing emergency standby generator will be replaced through the City's 5-year capital improvements program.
- c. Training Activities
 - i. Staff are being trained to utilize the influent pump station during loss of inter-stage pumping capabilities.
 - ii. Staff are being trained to utilize tie-breaker operations during loss of co-generation power production.
 - iii. Staff are being trained to utilize and follow the City's Primary Effluent Bypass Contingency Plan and Reporting Procedures

A summary of facility improvements is provided in Table F-6.

Table F-6. Planned Changes

Item	Project Schedule
Headworks Odor Control System	2017-2020
Primary Clarifier, Biotowers, Activated Sludge Tank Rehabilitation	2017-2018
Replace Belt Filter Presses and Conveyors	2017-2021
Interstage, Effluent pump rehabilitation	2019-2022
Cogenerators rehabilitations	2017-2020
Plant Motor Control Center/Transformers/Emergency Standby Generator Replacement	2020-2022
Rehabilitate Central Trunk (47), Harbor Blvd (12), Pleasant Valley (14) and Redwood Tributary (38) existing manholes	2018-2020
Install new 24-inch Rice Avenue Sewer	2020-2022

5. **Pretreatment:** On November 17-18, 2014, an explosion and fire at the Santa Clara Waste Water facility, located at 815 Mission Rock Road, resulted in property damage and injury. The facility was permitted by the City of Oxnard under the pretreatment requirements of R4-2013-0094 and the OWTs accepted waste water from the facility for treatment. The City's permit for Santa Clara Waste Water Facility was under review at the time of the accident as an effluent violation for Gross Beta radioactivity was measured on August 4, 2014. The facility was ultimately identified as the source of the radioactive waste, possibly associated with oil field pumping fluids, and the pretreatment permit was revoked. No other violations of water quality objectives were directly related to the operation of the facility. The USEPA coordinated enforcement actions concerning the fire and chemical releases and then led an additional review of the pretreatment program at Oxnard. Pretreatment upgrades include a revision of the Local Limits and Sewer Use Ordinance and adoption of a new Enforcement Response Plan granting additional authority to investigate and respond to instances of industrial user noncompliance. The new ordinance is scheduled to be heard by the City Council in

February 2019. Additional staffing, training, tracking, and permit revision are all underway.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS.

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDRs pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the USEPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit authorizing the Discharger to discharge into waters of the United States at the discharge location described in Table 2 subject to the WDRs in this Order.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from CEQA. See also *County of Los Angeles v. State Water Resources Control Board* (2006) 143 Cal.App.4th 985, 1007.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plan.** The Regional Water Board adopted a Water Quality Control Plan for the Los Angeles Region (Basin Plan) on June 13, 1994 that has been occasionally amended and designates beneficial uses, establishes water quality objectives (WQOs), establishes prohibitions, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan including its subsequent amendments. Beneficial uses applicable to the Pacific Ocean are as follows:

Table F-7. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Ormond Beach	<u>Existing:</u> Industrial water supply (IND); navigation (NAV); hydropower generation (POW); water contact recreation (REC-1); non-contact water recreation (REC-2); commercial and sport fishing (COMM); marine habitat (MAR); wildlife habitat (WILD); rare, threatened or endangered species (RARE); and, shellfish harvesting (SHELL). <u>Potential:</u> Spawning, reproduction, and/or early development (SPWN).
001	Pacific Ocean Nearshore	<u>Existing:</u> IND, NAV, REC-1, REC-2, COMM, MAR, WILD, preservation of biological habitats (BIOL), RARE, migration of aquatic organisms (MIGR), SPWN, and SHELL. <u>Potential:</u> None.
001	Pacific Ocean Offshore	<u>Existing:</u> NAV, REC-1, REC-2, COMM, MAR, WILD, RARE, MIGR, SPWN, and SHELL. <u>Potential:</u> None.

2. **Thermal Plan.** The State Water Board adopted the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan), on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for coastal and inland surface waters. Requirements of this Order implement the Thermal Plan. The limit was changed from maximum daily to instantaneous maximum to comply with the thermal plan.
3. **Ocean Plan.** The State Water Board adopted the Water Quality Control Plan for Ocean Waters of California, California Ocean Plan (Ocean Plan) in 1972 and amended it in 1978, 1983, 1988, 1990, 1997, 2000, 2005, 2009, 2012, and 2015. The State Water Board adopted the latest Ocean Plan amendment, to incorporate a Desalination Amendment, on May 6, 2015, and it became effective on January 28, 2016. The Ocean Plan is applicable, in its entirety, to point source discharges to the ocean. The Ocean Plan identifies beneficial uses of ocean waters of the state to be protected as summarized below.

Table F-8. Ocean Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Uses
Outfall 001	Pacific Ocean	Industrial water supply; water contact and non-contact recreation, including aesthetic enjoyment; navigation; commercial and sport fishing; mariculture; rare and endangered species; marine habitat; fish migration; fish spawning; and shellfish harvesting. preservation and enhancement of designated Areas of Special Biological Significance (ASBS) ³ .

4. **Santa Monica Bay Restoration Plan.** The OWTP discharges to the Ocean where predominant currents flow south to Santa Monica Bay, one of the most heavily used recreational areas in California. Recognizing the importance of the Bay as a national resource, the State of California and USEPA nominated Santa Monica Bay in the National Estuary Program, and Congress subsequently included Santa Monica Bay in the program. The USEPA, with support from the Santa Monica Bay Restoration Commission, developed the Bay Restoration Plan (BRP), which serves as a blueprint for restoring and enhancing the Bay. The Regional Water Board plays a lead role in the implementation of the BRP. One of the proposed priorities of the BRP are reduction of pollutants of concern at the source (including municipal wastewater treatment plants) and implementation of the mass emission approach for discharges of pollutants to the Bay.
5. **Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR part 131.21, 65 Federal Register 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and

³ There is no ASBS designated area in the vicinity of this discharge.

submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.

6. **Stringency of Requirements for Individual Pollutants.** This Order contains restrictions on individual pollutants that are no more stringent than required by the federal CWA and California Ocean Plan. Individual pollutant restrictions consist of technology-based effluent limitations (TBELs) and water quality-based effluent limitations (WQBELs). The TBELs consist of restrictions on BOD₅20°C, TSS, pH, and percent removal of BOD₅20°C and TSS, which implement the minimum applicable federal technology-based requirements for POTWs. In addition, effluent limitations more stringent than federal technology-based requirements consisting of restrictions on oil and grease, settleable solids, and turbidity are necessary to implement state treatment standards in Table 2 of the Ocean Plan. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. WQBELs for radionuclides, benzidine, PCBs, and TCDD equivalents have been scientifically derived to implement WQOs that protect beneficial uses. Both the beneficial uses and the water quality objectives are approved pursuant to federal law and are the applicable federal water quality standards. All beneficial uses and water quality objectives contained in the Basin Plan and the Ocean Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "applicable water quality standards for purposes of the CWA" pursuant to 40 CFR part 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.
7. **Antidegradation Policy.** Federal regulation 40 CFR section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law. Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies. The discharges permitted in this Order are consistent with the antidegradation provisions of 40 CFR § 131.12 and State Water Board Resolution 68-16 and is described in further detail in section IV.D.2. of this Fact Sheet.
8. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 CFR section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed. The applicability of these requirements to the order is discussed in detail in section IV.D.1. of the Fact Sheet.

The accompanying monitoring and reporting program requires continued data collection and if monitoring data show reasonable potential for a constituent to cause or contribute to an exceedance of water quality standards, the Order will be reopened to incorporate WQBELs. Such an approach ensures that the discharge will adequately protect water quality standards for designated beneficial uses and conform to antidegradation policies and anti-backsliding provisions.
9. **Endangered Species Act (ESA) Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now

prohibited, or becomes prohibited in the future, under the California ESA (Fish and Wildlife Code, sections 2050 to 2097). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable ESA.

10. **Monitoring and Reporting.** 40 CFR § 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. CWC sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The MRP establishes monitoring and reporting requirements to implement federal and state requirements. This MRP is provided in Attachment E.
11. **Water Recycling.** State Water Board Resolution 2009-0011, Adoption of a Policy for Water Quality Control for Recycled Water (Revised January 22, 2013, effective April 25, 2013) directs the Regional Water Board to encourage recycling. Consistent with this policy, the Discharger shall submit a feasibility report evaluating the feasibility of additional recycling efforts to reduce the amount of treated effluent discharged as authorized in this Order, and a recycled water progress report describing any updates to the development of increased recycled water production and/or distribution. These reports shall be included in the annual report submittal, as described in the monitoring and reporting program (MRP).
12. **Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR § 122.41, and additional conditions applicable to POTWs in accordance with 40 CFR § 122.42, are provided in Attachment D. The Regional Water Board has also included in this Order Special Provisions applicable to the Discharger. The rationale for the Special Provisions contained in this Order is provided in this Fact Sheet.

D. Impaired Water Bodies on the CWA section 303(d) List

The State Water Board proposed the California 2012 Integrated Report from a compilation of the adopted Regional Water Boards' Integrated Reports containing CWA section 303(d) List of Impaired Waters and section 305(b) Reports following recommendations from the Regional Water Boards and information solicited from the public and other interested persons. The Regional Water Boards' Integrated Reports were used to revise their 2010 303(d) List. On April 08, 2015, the State Water Board adopted the California 2012 Integrated Report. On July 30, 2015, the USEPA approved California's 2012 Integrated Report Section 303(d) List of Impaired Waters requiring Total Maximum Daily Loads (TMDLs) for the Los Angeles Region. On April 06, 2018, the 2014-2016 Integrated Report Section 303(d) List of Impaired Waters was approved by USEPA. The CWA section 303(d) list can be viewed at the following link:

https://www.waterboards.ca.gov/rwqcb5/water_issues/programs/tmdl/integrated2012.shtml#impaired_waters_list/

The Ocean off Ormond Beach is not on the 303(d) list for pollutants/stressors from point and non-point sources. The coast and bay shoreline at Point Mugu Beach and Port Hueneme Beach Park are on the 2014-2016 for indicator bacteria. The back basins in Port Hueneme Harbor are listed for arsenic, DDT, dieldrin, PAH, and PCB and the Port Hueneme Pier is listed for PCBs. The bay and harbor at Ventura Harbor/Ventura Keys are listed for arsenic, coliform and indicator bacteria, dieldrin, and PCBs. The Ventura Marina Jetties, coastal bay and shoreline, are listed for DDT and PCB. The Regional Water Board has adopted a TMDL to monitor legacy pesticides in McGrath Lake, which can drain into the Ocean north of the outfall under high groundwater conditions.

E. Other Plans, Policies and Regulations

1. **Secondary Treatment Regulations.** 40 CFR § 133 establishes the minimum levels of effluent quality to be achieved by secondary treatment. These limitations, established by USEPA, are incorporated into this Order, except where more stringent limitations are required by other applicable plans, policies, or regulations or to prevent backsliding.
2. **Storm Water.** CWA section 402(p), as amended by the Water Quality Act of 1987, requires NPDES permits for storm water discharges. Pursuant to this requirement, in 1990, USEPA promulgated 40 CFR § 122.26 that established requirements for storm water discharges under an NPDES program. To facilitate compliance with federal regulations, on November 1991, the State Water Board issued a statewide general permit, General NPDES Permit No. CAS000001 and Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities. This permit was amended in September 1992 and reissued on April 17, 1997 in State Water Board Order No. 97-03-DWQ, and superseded by Order No. 2014-0057-DWQ on April 1, 2014 to regulate storm water discharges associated with industrial activity.

The OWTP is subject to the requirements of California's General Permit for Storm Water Discharges Associated with Industrial Activities NPDES No. CAS000001, Water Quality Order No. 2014-0057-DWQ (Industrial General Permit). The Discharger submitted a Notice of Intent (WDID 4 56I027080) to comply with the requirements of the Industrial General Permit, which became effective July 1, 2015.

The Discharger developed and currently implements a Storm Water Pollution Prevention Plan (SWPPP) to comply with the requirements of the State Water Board's Industrial General Permit.

3. **Sanitary Sewer Overflows (SSOs).** The CWA prohibits the discharge of pollutants from point sources to surface waters of the United States unless authorized under an NPDES permit. (33 USC sections 1311 and 1342). The State Water Board adopted General WDRs for Sanitary Sewer Systems, (Water Quality Order No. 2006-0003-DWQ; SSO WDR) on May 2, 2006, as amended, to provide a consistent, statewide regulatory approach to address SSOs. The SSO WDR requires public agencies that own or operate sanitary sewer systems with greater than one mile of pipes and sewer lines to apply for coverage under the SSO WDR, develop and implement sewer system management plans, and report all SSOs to the State Water Board's online SSO database. Regardless of the coverage obtained under the SSO WDR, the Discharger's collection system is part of the POTW that is subject to this NPDES permit. As such, pursuant to federal regulations, the Discharger must properly operate and maintain its collection system (40 CFR § 122.41 (e)), report any non-compliance (40 CFR § 122.41(1)(6) and (7)), and mitigate any discharge from the collection system in violation of this NPDES permit (40 CFR § 122.41(d)).

The requirements contained in this Order sections VII.C.3.b (Spill Cleanup Contingency Plan section), VII.C.4 (Construction, Operation and Maintenance Specifications section), and VII.C.6 (Spill Reporting Requirements section) are intended to be consistent with the requirements of the SSO WDR. The Regional Water Board and USEPA recognizes that there may be some overlap between these NPDES permit provisions and SSO WDR requirements, related to the collection systems. The requirements of the SSO WDR are considered the minimum thresholds (see Finding 11 of State Water Board Order No. 2006-0003-DWQ). To encourage efficiency, the Regional Water Board and USEPA will accept the documentation prepared by the Dischargers under the SSO WDR for compliance purposes as satisfying the requirements in sections VII.C.3.b, VII.C.4, and VII.C.6, provided the more stringent provisions contained in this NPDES permit are also addressed. Pursuant to SSO WDR, section D, provision 2(iii) and (iv), the provisions of

this NPDES permit supersede the SSO WDR, for all purposes, including enforcement, to the extent the requirements may be deemed duplicative.

4. **Pretreatment.** Section 402 of the CWA and implementing regulations at 40 CFR § 403 establish pretreatment requirements for POTWs which receive pollutants from non-domestic users. This Order contains pretreatment program requirements pursuant to 40 CFR § 403 that are applicable to the Discharger.
5. **Sewage Sludge/Biosolids Requirements.** Section 405 of the CWA and implementing regulations at 40 CFR § 503 require that producers of sewage sludge/biosolids meet certain reporting, handling, and use or disposal requirements. The State has not been delegated the authority to implement this program; therefore, USEPA is the implementing agency. This Order contains sewage sludge/biosolids requirements pursuant to 40 CFR § 503 that are applicable to the Discharger.
6. **Watershed Management.** This Regional Water Board has been implementing a Watershed Management Approach (WMA) to address water quality protection in the Los Angeles Region, as detailed in the Watershed Management Initiative (WMI). The WMI is designed to integrate various surface and ground water regulatory programs while promoting cooperative, collaborative efforts within a watershed. It is also designed to focus limited resources on key issues and use sound science. Information about watersheds in the region can be obtained at the Regional Water Board's website at http://www.waterboards.ca.gov/losangeles/water_issues/programs/regional_program/watershed/index.shtml. The WMA emphasizes cooperative relationships between regulatory agencies, the regulated community, environmental groups, and other stakeholders in the watershed to achieve the greatest environmental improvements with the resources available.

The Regional Water Board has prepared and periodically updates its Watershed Management Initiative Chapter and the latest version was updated December 2007. This document contains a summary of the region's approach to watershed management. It addresses each watershed and the associated water quality problems and issues. It describes the background and history of each watershed, current and future activities, and addresses TMDL development. The information can be accessed on the Regional Water Board's website: <http://www.waterboards.ca.gov/losangeles>.

This Order and the accompanying Monitoring and Reporting Program (Attachment E) fosters implementation of this approach. The Monitoring and Reporting Program requires the discharger to participate in regional monitoring programs in the Southern California Bight.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATION.

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 CFR section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 CFR section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. Where numeric water quality objectives have not been established, 40 CFR § 122.44(d) specifies that WQBELs may be established using USEPA criteria guidance under CWA section 304(a); proposed State criteria or a State policy interpreting narrative criteria supplemented with other relevant information may be used; or an indicator parameter may be established.

A. Discharge Prohibitions.

This permit implements discharge prohibitions that are applicable under sections III.I.1.a, III.I.3.a, and III.I.4.a of the California Ocean Plan.

B. Technology-Based Effluent Limitations.

1. Scope and Authority.

Technology-based effluent limitations require a minimum level of treatment for industrial/municipal point sources based on currently available treatment technologies while allowing the Discharger to use any available control techniques to meet the effluent limits. The 1972 CWA required POTWs to meet performance requirements based on available wastewater treatment technology. Section 301 of the CWA established a required performance level--referred to as "secondary treatment" --that all POTWs were required to meet by July 1, 1977. More specifically, section 301(b)(1)(B) of the CWA required that USEPA develop secondary treatment standards for POTWs as defined in section 304(d)(1). Based on this statutory requirement, USEPA developed national secondary treatment regulations which are specified in 40 CFR § 133. These technology- based regulations apply to all POTWs and identify the minimum level of effluent quality to be attained by secondary treatment in terms of BOD₅20°C, TSS, and pH.

2. Applicable Technology-Based Effluent Limitations

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 CFR § 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and more stringent effluent limitations necessary to meet minimum federal technology-based requirements based on Secondary Standards at 40 CFR § 133 and Best Professional Judgment (BPJ) in accordance with 40 CFR § 125.3. Secondary treatment is defined in terms of three parameters – BOD₅20°C, TSS, and pH.

The following summarizes the technology-based requirements for secondary treatment, which are applicable to the Facility:

Table F-9. Summary of TBELs in 40 CFR part 133.102

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Percent Removal ⁴
BOD ₅ 20°C	mg/L	30 mg/L	45 mg/L	85
TSS	mg/L	30 mg/L	45 mg/L	85
pH	6.0 to 9.0 pH Units			

Also, Table 2 of the 2015 Ocean Plan establishes the following TBELs for POTWs, which are applicable to the Plant:

Table F-10. Summary of TBELs for POTWs established by the 2015 Ocean Plan

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Instantaneous Maximum
Oil & Grease	mg/L	25	40	75

⁴ Percent removal limit does not apply to the AWPFF influent.

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Instantaneous Maximum
TSS	mg/L	--	--	--
Settleable Solids	mL/L	1.0	1.5	3.0
Turbidity	NTU	75	100	225
Removal Efficiency for TSS	%	75 ⁵	--	--
pH	6.0 to 9.0 pH units			

All TBELs from Order No. R4-2013-0094 for BOD₅20°C, TSS, oil and grease, settleable solids, pH, and turbidity, are retained by this Order. All TBELs are independent of the dilution ratio for the discharge outfall. In addition to the concentration-based effluent limitations, mass-based effluent limitations based on the flow rate of 31.7 MGD used in Order R4-2013-0094, are also included.

The following table summarizes the TBELs for the discharge from the Facility.

Table F-11. Summary of TBELs for Discharge Point 001

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum ⁶ Daily	Instantaneous Minimum	Instantaneous Maximum ⁷
BOD ₅ 20°C ⁸	mg/L	30	45	--	--	--
	lbs/day ⁹	7,960	11,900	--	--	--
	% removal	85	--	--	--	--
Total Suspended Solids	mg/L	30	45	--	--	--
	lbs/day ⁹	7,960	11,900	--	--	--
	% removal	85	--	--	--	--
Oil and Grease	mg/L	25	40	--	--	75
	lbs/day ⁹	6,630	10,600	--	--	19,900
Settleable Solids	ml/L	1.0	1.5	--	--	3.0

⁵ Dischargers shall, as a 30-day average, remove 75% of TSS from the influent stream before discharging wastewater to the ocean, except that the effluent limitation to be met shall not be lower than 60 mg/L.

⁶ The maximum daily effluent limitations shall apply to flow weighted 24-hour composite samples

⁷ The instantaneous maximum effluent limitations shall apply to grab samples.

⁸ Compliance for BOD percent removal is at EFF-001A. Weekly Average and Monthly may be calculated from daily measurements.

⁹ The mass emission rates are based on the design flow of 31.7 MGD, and are calculated as follows: Flow (MGD) x Concentration (mg/L) x 8.34 (conversion factor) = lbs/day. During wet-weather storm events in which the flow exceeds the design capacity, the mass discharge rate limitations shall not apply, and concentration limitations will provide the only applicable effluent limitations.

Parameter	Units	Effluent Limitations				
		Average Monthly	Average Weekly	Maximum ⁶ Daily	Instantaneous Minimum	Instantaneous Maximum ⁷
Turbidity	NTU	75	100	--	--	225
pH	pH unit	Within the limit of 6.0 - 9.0 at all times				

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority.

Section 301(b) of the CWA and 40 CFR § 122.44(d) require that permits include limitations more stringent than applicable technology-based requirements where necessary to achieve water quality standards and State requirements. 40 CFR § 122.44(d)(1)(i) requires that permits include WQBELs for all pollutants which are or may be discharged at levels having the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives or criteria within a standard. USEPA has applied CWA section 403(c) and 40 CFR § 125, Subpart M, following 40 CFR § 122. Where reasonable potential has been established for a pollutant to cause, or contribute to an excursion above a narrative criterion within an applicable State water quality standard, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBELs when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the Ocean Plan.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan and Ocean Plan establish the beneficial uses and Water Quality Objectives for ocean waters of the State. The beneficial uses of the receiving waters affected by the discharge have been described previously in this Fact Sheet. The Basin Plan contains Water Quality Objectives for bacteria for water bodies designated for water contact recreation and the Ocean Plan contains water quality objectives for bacterial, physical, chemical, and biological characteristics, and radioactivity. The Water Quality Objectives from the Ocean Plan and Basin Plan were incorporated into this Order as either final effluent limitations (based on reasonable potential) or receiving water limitations.

3. Expression of WQBELs

Pursuant to 40 CFR § 122.45(d)(2), for POTW continuous discharges, all permit effluent limitations, standards, and prohibitions, including those necessary to achieve water quality standards, shall, unless impracticable, be stated as average weekly and average monthly discharge limitations. It is impracticable to include only average weekly and average monthly effluent limitations in the Order because a single daily discharge of certain pollutants, in excess amounts, can cause violations of water quality objectives.

The effects of pollutants on aquatic organisms are often rapid. For many pollutants, an average weekly or average monthly effluent limitation alone is not sufficiently protective of beneficial uses. As a result, maximum daily effluent limitations, as referenced in 40 CFR § 122.45(d), are included in the Order for certain constituents.

The WQBELs for marine aquatic life toxics contained in this Order are based on Table 1 water quality objectives contained in the 2015 Ocean Plan that are expressed as six-month median, daily maximum, and instantaneous maximum water quality objectives. However, in the existing Order (Order No. R4-2013-0094), the calculated effluent limitations based on 6-month median objectives for marine aquatic life toxics in the 2009 Ocean Plan were prescribed as average monthly limitations. Applying the antibacksliding regulations, this Order retains the same approach and sets effluent limitations derived from six-month median water quality objectives for marine aquatic life toxics in the 2015 Ocean Plan as average monthly limitations. In addition, the 2015 Ocean Plan specifies that for the six-month median for intermittent discharges, the daily value shall be considered to equal zero for days on which no discharge occurred.

4. **Determining the Need for WQBELs**

Order No. R4-2013-0094 contains effluent limitations for the conventional, non-conventional and toxic pollutant parameters in Table 1 of the Ocean Plan. For this Order, the need for effluent limitations based on water quality objectives in Table 1 of the 2015 Ocean Plan was reevaluated in accordance with the Reasonable Potential Analysis (RPA) procedures contained in Appendix VI of the 2015 Ocean Plan. This statistical RPA method (RPcalc version 2.2) accounts for the averaging period of the water quality objective, accounts for and captures the long-term variability of the pollutant in the effluent, accounts for limitations associated with sparse data sets, accounts for uncertainty associated with censored data sets, and assumes a lognormal distribution of the facility-specific effluent data. The program calculates the upper confidence bound (UCB) of an effluent population percentile after complete mixing. In the evaluation employed in this Order, the UCB is calculated as the one-sided, upper 95th percent confidence bound for the 95th percentile of the effluent distribution after complete mixing. The calculated UCB95/95 is then compared to the appropriate objective to determine the potential for an exceedance of that objective and the need for an effluent limitation. For constituents that have an insufficient number of monitoring data or a substantial number of non-detected data with a reporting limit higher than the respective water quality objective, the RPA result is likely to be inconclusive. The Ocean Plan requires that existing effluent limitations for these constituents are retained in the new Order, and the permit shall include a reopener clause to allow for subsequent modification of the permit to include an effluent limitation if monitoring establishes that the discharge causes, has the reasonable potential to cause, or contributes to an excursion above a water quality objective. WQBELs were calculated using monitoring data collected between August 2013 and December 2017.

In general, for constituents that have been determined to have no reasonable potential to cause, or contribute to, excursions of water quality objectives, no numerical limits are prescribed; instead a narrative statement to comply with all Ocean Plan requirements is provided and the Discharger is required to monitor for these constituents to gather data for use in RPAs for future Order renewals and/or updates.

For Discharge Point 001, inconclusive results were reported for cyanide, acrolein, chlorobenzene, ethylbenzene, toluene, tributyltin, 1,1,1-trichloroethane, acrylonitrile, benzene, benzidine, carbon tetrachloride, chlordane, chlorodibromomethane, DDT, 3,3'-dichlorobenzidine, 1,2-dichloroethane, dichlorobromomethane, dichloromethane, 1,3-dichloropropene, halomethanes, hexachlorobenzene, PAH, PCBs, TCDD, 1,1,2,2,-

tetrachloroethane, tetrachloroethane, toxaphene, trichloroethylene, 1,2,3 trichloroethane and vinyl chloride. For benzidine, PCB and TCDD equivalents limits from the previous permit have been met with the existing treatment system and were applied in this Order, even though the results of the reasonable potential analysis were inconclusive. For each of the other constituents listed as inconclusive, less than 20% of the measurements included a detection, and for most, no detections were made. For the pollutants that have not been detected in the final effluent, the Discharger has made, and continues to make, an effort to achieve lower detection limits than are required in the 2015 Ocean Plan or 40 CFR 136. The permit includes a reopener to incorporate a new limit or performance goal based on an updated reasonable potential analysis. The MRP (Attachment E) of this Order also requires the Discharger to continue to monitor these constituents.

Bacteria were not found to have a reasonable potential to cause or exceed water quality criteria and no WQBELs for bacteria are proposed. Bacteria sampling is required at EFF-001A to demonstrate successful disinfection has resulted from secondary treatment. The 2015 Ocean Plan includes limits for bacteria in the public contact zones bounded by the shoreline and a distance of 1,000 feet. The State Water Resource Control Board Division of Drinking Water sets minimum protective bacteriological standards in the areas designated by the Los Angeles Regional Water Quality Control Plan (Basin Plan) for water-contact sport areas (REC-1) and shell-fish harvesting (SHELL), although these standards may not apply during a wet weather events. Compliance with bacteria criteria is demonstrated in this Order by receiving water monitoring between the outfall and the shoreline. The majority of measurements for fecal indicator bacteria, collected in the ocean near the Oxnard outfall between 2015 and 2017, were below the method detection limit (<2 MPN/100 mL). Indicator bacteria, including total and fecal coliforms, and enterococcus bacteria were not detected at the surface and or at depth further than 1000 feet from the zone of initial dilution. In all cases, indicator bacteria concentrations were below DDW/Basin Plan standards. Where bacteria standards have been routinely exceeded at the shore-line in this Region, this monitoring practice allows the development of a regulatory device such as the Santa Monica Bay Beaches Wet Weather Bacteria Total Maximum Daily Load Resolution No. 2006-005, which identified wet weather overland flow as the source of the bacteria, and successfully reduced beach bacteria through the control of storm water discharge.

5. WQBEL Calculations

From the Table 1 water quality objectives of the Ocean Plan, WQBELs are calculated according to the following equation for all pollutants, except for acute toxicity (if applicable) and radioactivity:

$$C_e = C_o + D_m (C_o - C_s)$$

Where

C_e = the effluent limitation ($\mu\text{g/L}$)

C_o = the water quality objective to be met at the completion of initial dilution ($\mu\text{g/L}$)

C_s = background seawater concentration ($\mu\text{g/L}$) (see Table F-13 below)

D_m = minimum probable initial dilution expressed as parts seawater per part wastewater

Initial dilution is the process that results in the rapid and irreversible turbulent mixing of wastewater with ocean water around the point of discharge. For a submerged buoyant discharge, characteristic of most municipal and industrial wastes that are released from

the submarine outfalls, the momentum of the discharge and its initial buoyancy act together to produce turbulent mixing. Initial dilution in this case is completed when the diluting wastewater ceases to rise in the water column and first begins to spread horizontally.

A 2017 dilution study confirmed the initial dilution factor (D_m) of 1:108 can apply. The value of D_m is described in detail in section I.B. of this Fact Sheet. Based on Table 3 of the 2015 Ocean Plan, C_s is equal to zero for all pollutants except the following:

Table F-12. Pollutants with Background Seawater Concentration

Constituent	Background Seawater Concentration (C_s)
Arsenic	3 $\mu\text{g/L}$
Copper	2 $\mu\text{g/L}$
Mercury	0.0005 $\mu\text{g/L}$
Silver	0.16 $\mu\text{g/L}$
Zinc	8 $\mu\text{g/L}$

Although a reasonable potential to cause or contribute to the exceedance of a water quality objective was not identified for chlorine residual or ammonia at Discharge Point 001, the calculations of the WQBELs are provided as an example.

Table F-13. Ocean Plan Water Quality Objectives (C_o)

Constituents	6-Month Median	Daily Maximum	Instantaneous Maximum
Chlorine Residual	2 $\mu\text{g/L}$	8 $\mu\text{g/L}$	60 $\mu\text{g/L}$
Ammonia	0.60 mg/L	2.4 mg/L	6 mg/L

Using the equation, $C_e = C_o + D_m (C_o - C_s)$, effluent limitations would be calculated as follows, before rounding to two significant digits, for discharge through Discharge Point 001, with a dilution ratio (D_m) of 1:108.

Chlorine Residual

$C_e = 2 + 108 (2-0) = 218 \mu\text{g/L}$ (6 Month Median and Monthly Average)

$C_e = 8 + 108 (8-0) = 872 \mu\text{g/L}$ (Daily Maximum)

$C_e = 60 + 108 (60-0) = 6,540 \mu\text{g/L}$ (Instantaneous Maximum)

Chlorine residual shows no reasonable potential to cause or contribute to an exceedance of the Ocean Plan water quality objective of 2 $\mu\text{g/L}$. While wastewater disinfection with chlorine usually produces the chlorine residual and the byproducts of chlorination are highly toxic to aquatic life, the maximum monthly chlorine residual at EFF-001B was 0.08 mg/L and below the 2013 Performance Goal (PG) of 0.1 $\mu\text{g/L}$, so no limit was applied. Retention of the PG from the 2013 Order will ensure chlorine residual effluent concentration will remain lower than if the limit of 218 $\mu\text{g/L}$ was imposed as an average monthly average. The final PG for chlorine residual is 0.1 $\mu\text{g/L}$.

Ammonia

$C_e = 0.6 + 108(0.6-0) = 65 \text{ mg/L}$ (6 Month Median and Monthly Average)

$C_e = 2.4 + 108(2.4-0) = 262 \text{ mg/L}$ (Daily Maximum)

$C_e = 6 + 108(6-0) = 654 \text{ mg/L}$ (Instantaneous Maximum)

Ammonia shows no reasonable potential to cause or contribute to an exceedance of the Ocean Plan water quality objective of 0.60 mg/L. After dilution, the maximum effluent concentration for ammonia of 34.48 mg/L remains lower than the six-month median and monthly average limit based on the Ocean Plan of 65 mg/L. The ammonia limits calculated here are not incorporated into this Order. The Performance Goal (PG) was calculated to be 43.8 mg/L.

Radioactivity:

The water quality objective for radioactivity in the 2015 California Ocean Plan states the value is not to exceed limits specified in Title 17, Division 1, Chapter 5, Subchapter 4, Group 3, Article 3, section 30253 of the California Code of Regulations and future changes to incorporate provisions of federal law as the changes take effect. This regulation does not establish a numerical effluent limit for radionuclides. During the preparation of R4-2012-0094, Regional Water Board staff used Best Professional Judgment (BPJ) to establish radioactivity limits based on maximum effluent concentrations of 10.2 pCi/L for gross alpha and 50 for gross beta radioactivity. These limits are maintained because the existing limit of 50 pCi/L for gross beta was exceeded with a measure of 94 pCi/L. The Discharger conducted additional analysis of radium 226 and 228 as required by R4-2013-0094, and confirmed that no additional radionuclides were present at levels above the minimum detection levels. The Discharger determined that the exceedance of gross beta of 94, as a maximum monthly average in August 2014, could be attributed to discharge from a single industrial source, the Santa Clara Wastewater facility. While the industry no longer discharges to the collection system and compliance is expected, the limits are retained should the City wish to retain their discretion to accept new industries which treat radioactive oil field waste.

Based on the implementing procedures described above, effluent limitations were evaluated for Table 1 pollutants (excluding acute toxicity and radioactivity) from the 2015 Ocean Plan. No new limits have been incorporated into this Order. The proposed WQBELs in Table F-14 are all retained from the previous Order because there is insufficient evidence to determine there is no reasonable potential that the discharge will cause or contribute to the exceedance of some water quality objectives, and, in the case of radioactivity, because future sources could be permitted.

Table F-14. Proposed Water Quality Objectives (Ce)

Constituents	Units	Average Monthly	Instantaneous Maximum Daily ⁵
Gross alpha	pCi/L		15
Gross beta	pCi/L		50
Combined radium 226-228	pCi/L		5
Tritium	pCi/L		20,000
Strontium 90	pCi/L		8
Uranium	pCi/L		20
Benzidine	µg/L	.0068	
PCB	µg/L	.0019	
TCDD	µg/L	.00000039	

6. Whole Effluent Toxicity (WET).

Whole effluent toxicity (WET) testing protects receiving waters from the aggregate toxic effect of a mixture of pollutants in the effluent or pollutants that are not typically monitored. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a short or a longer period of time and may measure a sublethal endpoint such as reproduction or growth in addition to mortality. A constituent present at low concentrations may exhibit a chronic effect; however, a higher concentration of the same constituent may be required to produce an acute effect. Because of the nature of industrial discharges into the POTW sewershed, toxic constituents (or a mixture of constituents exhibiting toxic effects) may be present in the OWTP effluent.

A total of 108 chronic toxicity tests were conducted on OWTP final effluent between August 2013 and December 2017. None exceeded the 99 TUC maximum daily final effluent limitation for chronic toxicity. The discharge did not exhibit reasonable potential to exceed the water quality objectives for chronic toxicity at the discharge point based on 2015 Ocean Plan procedures for calculating reasonable potential.

The Ocean Plan addresses the application of chronic and acute toxicity requirements based on minimum probable dilutions (Dm) for ocean discharges. Following the 2015 Ocean Plan, dischargers are required to conduct chronic toxicity monitoring for ocean discharges with Dm factors ranging from 99 to 349 and Regional Water Boards may require acute toxicity monitoring in addition to chronic toxicity monitoring. Dischargers with Dm factors below 99 are required to conduct only chronic toxicity testing. The Dm for Discharge Point 001 is 108. The Dm is more than 99 for the outfall, even though the discharge does not exhibit reasonable potential to exceed the water quality objectives for chronic toxicity, the chronic toxicity final effluent limitation is maintained to ensure increases in brine concentration with process modification of the AWPf do not result in toxicity. No acute toxicity final effluent limitations have been assigned to the discharge since it is not required for this discharge point based on the requirements in the 2015 Ocean Plan and since the discharge did not exhibit reasonable potential to exceed the water quality objectives for acute toxicity.

The Ocean Plan establishes a daily maximum chronic toxicity objective of $1.0 \text{ TUC} = 100/(\text{No Observed Effect Concentration (NOEC)})$, using a 5-concentration hypothesis test, and a daily maximum acute toxicity objective of $0.3 \text{ TUA} = 100/\text{LC50}$, using a point estimate model. This Order/Permit includes final effluent limitations using the Test of Significant Toxicity (TST) hypothesis testing approach. This statistical approach is consistent with the Ocean Plan in that it provides maximum protection to the environment since it more reliably identifies acute and chronic toxicity than the current NOEC hypothesis-testing approach (See *2015 California Ocean Plan, section III.F and Appendix I*).

On July 07, 2014, the Chief Deputy of the Water Quality Division announced that the State Water Board would be releasing a revised version of the Chronic Toxicity Plan for public comment within a few weeks. Regional Water Board staff awaits its release. Nevertheless, this Order/Permit contains a reopener to allow the Regional Water Board to modify the permit in the future, if necessary, to make it consistent with any new policy, plan, law, or regulation.

For this permit, chronic toxicity in the discharge is evaluated using a maximum daily effluent limitation that utilizes USEPA's 2010 TST hypothesis testing approach. The chronic toxicity effluent limitations are expressed as "Pass" for each maximum daily individual result.

In January 2010, USEPA published a guidance document titled EPA Regions 8, 9 and 10 Toxicity Training Tool, which among other things discusses permit limit expression for chronic toxicity. The document acknowledges that NPDES regulations at 40 CFR § 122.45(d) require that all permit limits be expressed, unless impracticable, as an Average Weekly Effluent Limitation (AWEL) and an Average Monthly Effluent Limitation (AMEL) for POTWs. Following section 5.2.3 of the Technical Support Document (TSD), the use of an AWEL is not appropriate for WET. In lieu of an AWEL for POTWs, USEPA recommends establishing a Maximum Daily Effluent Limitation (MDEL) for toxic pollutants and pollutants in water quality permitting, including WET. For an ocean discharge, this is appropriate because the 2015 Ocean Plan only requires a MDEL and does not include Average Monthly or Average Weekly Effluent Limitations for chronic toxicity (See 2015 California Ocean Plan, section II.D.7.).

The MDEL is the highest allowable value for the discharge measured during a calendar day or 24-hour period representing a calendar day. The AMEL is the highest allowable value for the average of daily discharges obtained over a calendar month. For WET, this is the average of individual WET test results for that calendar month. In June 2010, USEPA published another guidance document titled *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, June 2010), in which they recommend the following: "Permitting authorities should consider adding the TST approach to their implementation procedures for analyzing valid WET data for their current NPDES WET Program." The TST approach is another statistical option for analyzing valid WET test data. Use of the TST approach does not result in any changes to EPA's WET test methods. Section 9.4.1.2 of USEPA's *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/0136, 1995), recognizes that, "the statistical methods recommended in this manual are not the only possible methods of statistical analysis." The TST approach can be applied to acute (survival) and chronic (sublethal) endpoints and is appropriate to use for both freshwater and marine EPA WET test methods.

The interpretation of the measurement result from USEPA's TST statistical approach (Pass/Fail) for effluent and receiving water samples is, by design, independent from the concentration-response patterns of the toxicity tests for samples when it is required. Therefore, when using the TST statistical approach, application of USEPA's 2000 guidance on effluent and receiving waters concentration-response patterns will not improve the appropriate interpretation of TST results as long as all Test Acceptability Criteria and other test review procedures – including those related to Quality Assurance for effluent and receiving water toxicity tests, reference toxicant tests, and control performance (mean, standard deviation, and coefficient of variation) – described by the WET test methods manual and TST guidance, are followed. The 2000 guidance may be used to identify reliable, anomalous, or inconclusive concentration-response patterns and associated statistical results to the extent that the guidance recommends review of test procedures and laboratory performance already recommended in the WET test methods manual. The guidance does not apply to single concentration (IWC) and control statistical t-tests and does not apply to the statistical assumptions on which the TST is based. The Regional Water Board and USEPA will not consider a concentration-response pattern as a sufficient basis to determine that a TST t-test result for a toxicity test is anything other than valid, absent other evidence. In a toxicity laboratory, unexpected concentration-response patterns should not occur with any regular frequency and consistent reports of anomalous or inconclusive concentration-response patterns or test results that are not valid will require an investigation of laboratory practices.